Madigan Army Medical Center
Musculoskeletal Treatment Guidelines

CERVICAL PAIN

Diagnosis/Definition

- Cervical pain that is muscular, discogenic, or arthritic in nature. Patient may be experiencing limited ROM of C-spine or have pain referred to the trapezius or extremity.

Initial Diagnosis and Management

- History and physical examination.
- Radiograph of the spine if cervical pain started with trauma.
- MRI/CT not indicated initially.
- Initial Management:
- NSAIDs.
- Adults - 200 to 400 milligrams (mg) every four to six hours as needed for up to 2 weeks. Example: Ibuprofen
- Take tablet or capsule forms of these medicines with a full glass (8 ounces) of water.
- Do not lie down for about 15 to 30 minutes after taking the medicine. This helps to prevent irritation that may lead to trouble in swallowing.
- To lessen stomach upset, these medicines should be taken with food or an antacid.
- Do not prescribe muscle relaxants as they are not effective.
- Soft collar not recommended except for 1-5 days s/p high speed whiplash trauma (i.e., MVA).
- Appropriate activity limitations on lifting, overhead work, heavy headgear, etc.
- Ice packs every 20-minute q2h x 72 hours - then change to heat PRN.
- Encourage gentle, pain-free ROM.

Ongoing Management and Objectives

- Should observe a reduction in pain level within 3-5 days.
- Chronic upper trapezius tension may persist for up to 2 months.
- Expect increased AROM of C-spine and decreased muscle spasm within 2 weeks, complete resolution will take longer.
- Indication a Profile is needed
- Any limitations that affect strength, range of movement, and efficiency of legs, feet, lower back and pelvic girdle.
- Limitations that produce slightly limited mobility of joints, muscular weakness, or other musculo-skeletal defects.
- Defects or impairments that require significant restriction of use.

Specifications for the Profile

- Weeks 1-2

  - Run at own pace and distance
  - No marching greater than 2 miles
  - No sit ups
  - No ruck sacks
  - No lifting greater than 15lbs
  - No repetitive bending
- Weeks 2-4
  - Gradually return to normal activity

Patient/Soldier Education or Self care Information

- See attached sheet
- Demonstrate deficits that exist
  - Describe/show soldier his/her limitations
- Explain injury and treatment methods
  - Use diagram attached to describe injury, location and treatment.
- Instruct and demonstrate rehab techniques
  - Demonstrate rehab exercises as shown in attached guide
  - Warm up before any sports activity
  - Participate in a conditioning program to build muscle strength
  - Do stretching exercises daily
- Ask the patient to demonstrate newly learned techniques and repeat any other instructions.
- Fine tune patient technique
- Correct any incorrect ROM/stretching demonstrations or instructions by repeating and demonstrating information or exercise correctly.
- Encourage questions
  - Ask soldier if he or she has any questions
- Give supplements such as handouts
- Schedule follow up visit
  - If pain persists with weight bearing
  - The pain does not improve as expected
  - Patient is having difficulty after three days of injury
  - Increased pain or swelling after the first three days
  - Patient has any questions regarding care

Indications for Referral to Specialty Care

- Specialty Care Referral (Physical Therapy):
  - No improvement within 3-5 days.
  - If the patient has radicular symptoms.
  - Specialty Care Referral (Neurosurgery):
  - If the patient develops radicular symptoms below elbow and/or has positive MRI findings.

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Referral criteria for Return to Primary Care

- Chronic condition that can be managed at the primary care level with intermittent specialty care evaluation.
- 4-6 weeks of physical therapy without improvement.

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Figure: Courtesy of Richard L. Aptaker, DO

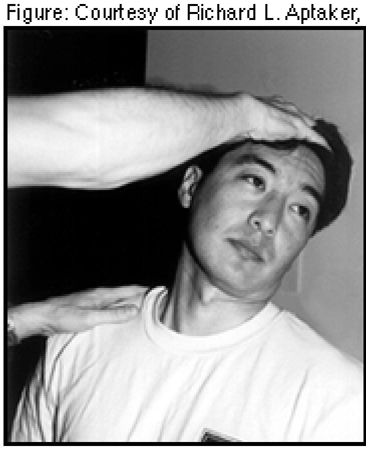


Figure 1. In the Spurling test, the patient extends the neck, and then rotates and laterally bends the head to the same side while the examiner applies downward pressure to the top of the head. If this position, with or without pressure, reproduces radicular symptoms into the upper limb, a cervical radiculopathy is suggested.

Figure: Mary Albury-Noyes

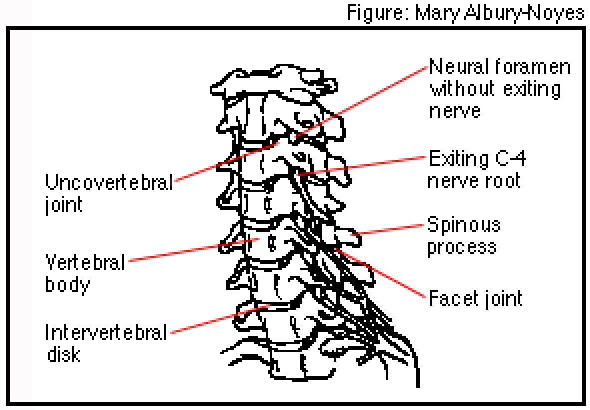
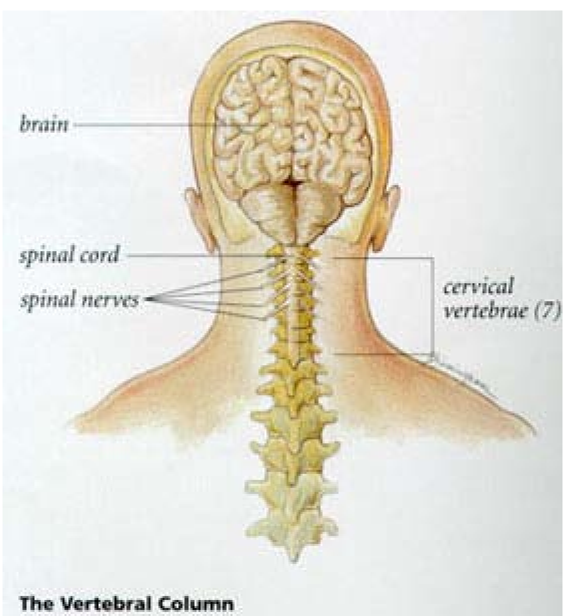
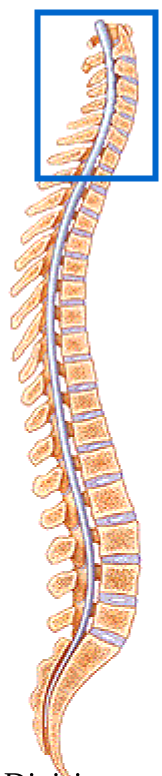


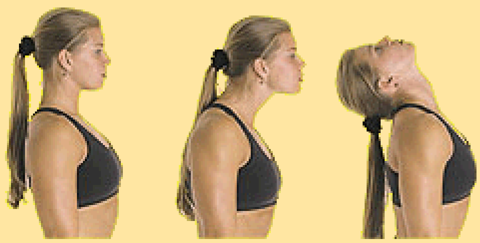
Figure A. Anatomic features of the cervical spine.





Exercises

Neck & Glide Extension



NECK GLIDE (middle photo): Start with neck straight. Slowly slide your chin forward. Hold for five seconds and return to starting position. Do ten times.
NECK EXTENSION (right photo): Without arching your back, slowly move your head backward so you are looking upward. Hold for five seconds. Return to starting position (far left photo).

This is a good exercise to do during work to prevent neck strain.

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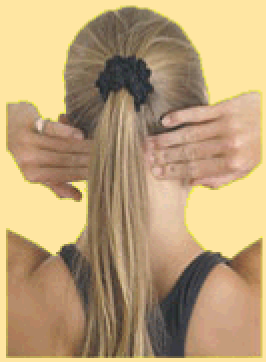
Acupressure Point



Practitioners in acupressure have various pressure points located on the body. The points shown here related to chronic pain. By pressing and holding for several seconds, acupressure advocates believe a person can sense some relief of pain.

Neck Rotation

Start by looking straight ahead. Slowly turn your head to the left. Hold for ten seconds, then return to starting position. Then, slowly turn you head to the other side. Hold for ten seconds. Return to starting position. Do ten repetitions.

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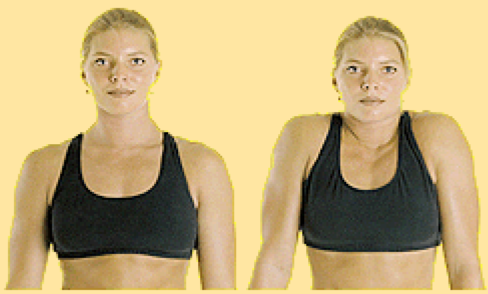
This is a good exercise to do during work, especially if you have to keep your head in a steady position for extended periods, as in working at a computer. Do this exercise every half hour to prevent neck strain.

Neck Side Extension

Start by looking straight ahead. Slowly lean your head to the left. Hold for five seconds, then return to starting position. Then, slowly lean your head to the other side. Hold for five seconds. Return to starting position. Do ten repetitions.

This is a good exercise to do during work, especially if you have to keep your head in a steady position for extended periods, as in working at a computer. Do this exercise every half hour to prevent neck strain.

Neck Stretch



Start by looking straight ahead. Slowly raise both shoulders up. Hold for five seconds, then return to starting position. Do ten repetitions.

This is a good exercise to do during work, especially if you have to keep your head in a steady position for extended periods, as in working at a computer. Do this exercise every half hour to prevent neck strain.

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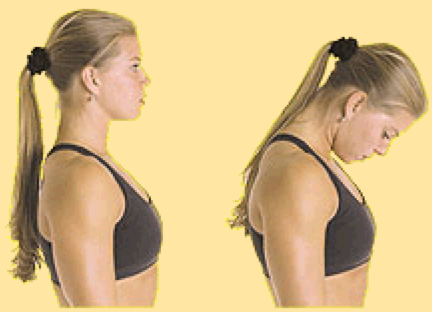
Neck Forward Flexion



Start by looking straight ahead. Slowly lower your chin toward your chest. Hold for five seconds, then return to starting position. Do ten repetitions.

This is a good exercise to do during work, especially if you have to keep your head in a steady position for extended periods, as in working at a computer. Do this exercise every half hour to prevent neck strain.

PHYSICAL PROFILE

For use of this form, see AR 40-501; the proponent agency is the Office of The Surgeon General

1. MEDICAL CONDITION CERVICAL PAIN

2.

P	U	L	H	E	S

3. ASSIGNMENT LIMITATIONS ARE AS FOLLOWS
WEEKS 1 -2 , RUN AT OWN PACE AND DISTANCE , NO MARCHING GREATER THAN 2 MILES, NO SIT UPS, NO RUCK, NO LIFTING >15LBS. WEEKS 2-4, GRADUAL RETURN TO NORMAL ACTIVITY

CODES

4. THIS PROFILE IS ☐ PERMANENT ☒ TEMPORARY EXPIRATION DATE:

5. THE ABOVE STATED MEDICAL CONDITION SHOULD NOT PREVENT THE INDIVIDUAL FROM DOING THE FOLLOWING ACTIVITIES

☒ Groin Stretch	☒ Thigh Stretch	☒ Lower Back Stretch	☐ Neck & Shoulder Stretch	☐ Neck Stretch
☒ Hip Raise	☒ Quads Stretch & Bal.	☒ Single Knee to Chest	☒ Upper Back Stretch	☒ Ankle Stretch
☒ Knee Bender	☒ Calf Stretch	☒ Straight Leg Raise	☒ Chest Stretch	☒ Hip Stretch
☒ Side-Straddle Hop	☒ Long Sit	☒ Elongation Stretch	☒ One-Arm Side Stretch	☒ Upper Body Wt Tng
☒ High Jump	☒ Hamstring Stretch	☒ Turn and Bounce	☒ Two-Arm Side Stretch	☒ Lower Body Wt Tng
☒ Jogging in Place	☒ Hams. & Calf Stretch	☒ Turn and Bend	☒ Side Bender	☐ All

6. AEROBIC CONDITIONING EXERCISES

☒ Walk at Own Pace and Distance
☒ Run at Own Pace and Distance
☒ Bicycle at Own Pace and Distance
☒ Swim at Own Pace and Distance
☒ Walk or Run in Pool at Own Pace

☒ Unlimited Walking
☒ Unlimited Running
☒ Unlimited Bicycling
☒ Unlimited Swimming

☐ Run at Training Heart Rate for ____ Min.
☐ Bicycle at Training Heart Rate for ____ Min.
☐ Swim at Training Heart Rate for ____ Min.

7. FUNCTIONAL ACTIVITIES

☐ Wear Backpack (40 Lbs.)
☒ Wear Helmet
☒ Carry Rifle
☒ Fire Rifle

With Hearing Protection
☒ KP/Mopping/Mowing Grass
☒ Marching Up to 2 Miles
☒ Lift Up to 15 Pounds
☐ All

PHYSICAL FITNESS TEST

☒ Two Mile Run ☒ Walk
☒ Push-Ups ☒ Swim
☒ Sit-Ups ☒ Bicycle

8. TRAINING HEART RATE FORMULA

MALES 220 FEMALES 225

MINUS (-) AGE
MINUS (-) RESTING HEART RATE
TIMES (X) % INTENSITY
PLUS (+) RESTING HEART RATE

50% EXTREMELY POOR CONDITION
60% HEALTHY, SEDENTARY INDIVIDUAL
70% MODERATELY ACTIVE, MAINTENANCE
80% WELL TRAINED INDIVIDUAL

9. OTHER

TYPED NAME AND GRADE OF PROFILING OFFICER	SIGNATURE	DATE
TYPED NAME AND GRADE OF PROFILING OFFICER	SIGNATURE	DATE

ACTION BY APPROVING AUTHORITY

PERMANENT CHANGE OF PROFILE ☐ APPROVED ☐ NOT APPROVED

TYPED NAME, GRADE & TITLE OF APPROVING AUTHORITY	SIGNATURE	DATE

ACTION BY UNIT COMMANDER

THIS PERMANENT CHANGE IN PROFILE SERIAL ☐ DOES ☐ DOES NOT REQUIRE A CHANGE IN MEMBER'S
☐ MILITARY OCCUPATIONAL SPECIALTY ☐ DUTY ASSIGNMENT BECAUSE:

TYPED NAME AND GRADE OF UNIT COMMANDER	SIGNATURE	DATE

PATIENT'S IDENTIFICATION *(For typed or written entries give: Name (last, first, middle); grade; SSN; hospital or medical facility)*

UNIT

ISSUING CLINIC AND PHONE NUMBER

DISTRIBUTION
UNIT COMMANDER - ORIGINAL & 1 COPY
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DA FORM 3349, MAY 86 REPLACES DA FORM 5302-R (TEST) DATED FEB 84 AND DA FORM 3349 DATED 1 JUN 80, WHICH ARE OBSOLETE

USAPPC V1.00

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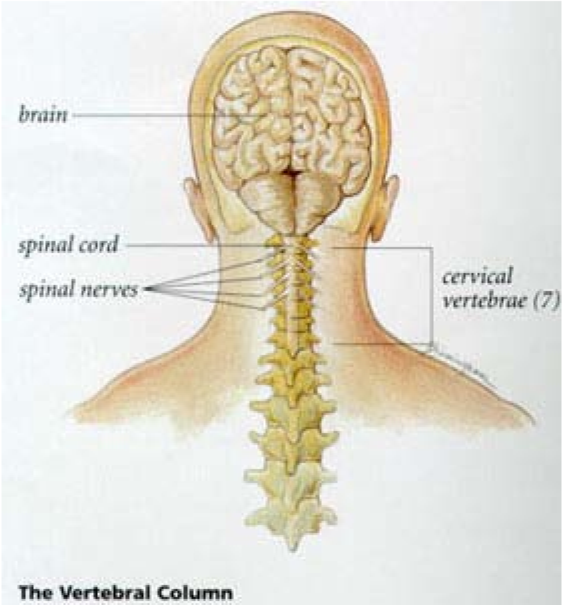
PATIENT INFORMATION



The neck (cervical spine) is composed of vertebrae which begin in the upper torso and end at the base of the skull. The bony vertebrae along with the ligaments (like thick rubber bands) provide stability to the spine. The muscles allow for support and motion. The neck has a significant amount of motion and supports the weight of the head. However, because it is less protected than the rest of the spine, the neck can be vulnerable to injury and disorders that produce pain and restrict motion. For many people, neck pain is a temporary condition that disappears with time. Others need medical diagnosis and treatment to relieve their symptoms.

What causes neck pain?

Neck pain may result from abnormalities in the soft tissues - the muscles, ligaments and nerves – as well as in bones and joints of the spine. The most common causes of neck pain are soft tissue abnormalities due to injury or prolonged wear and tear. In rare cases, infection or tumors may cause neck pain. In some people, neck problems may be the source of pain in the upper back, shoulders or arms.

Degenerative and inflammatory diseases – Degenerative diseases that cause neck pain include osteoarthritis and rheumatoid arthritis. Osteoarthritis usually occurs in older people as a result of wear of the joints between the bones in the neck. Rheumatoid arthritis can cause destruction of the joints of the neck. Both of these major types of arthritis can cause stiffness and pain.

Cervical disk degeneration also can cause neck pain. The disk acts as a shock absorber between the bones in the neck. In cervical disk degeneration (typically age 40 onwards), the normal gelatin-like center of the disk degenerates and the space between the vertebrae narrows. As the disk space narrows, added stress is applied to the joints of the spine causing further wear and degenerative disease. The cervical disk may also protrude and cause pressure on the spinal cord or nerve roots when the rim of the disk weakens. This is known as a herniated cervical disk.

Injury - Because the neck is so flexible and because it supports the head, it is extremely vulnerable to injury. Motor vehicle or diving accidents, contact sports, and falls may result in neck injury. The regular use of safety belts in motor vehicles can help to prevent or minimize injury. A "rear end" automobile collision may result in hyperextension, a backward motion of the neck beyond normal limits, or hyperflexion, a forward motion of the neck beyond normal limits. Most common injuries are to the soft tissues, i.e., muscles and ligaments. Severe injury with fracture or dislocation of the neck may damage the spinal cord and cause paralysis (quadriplegia).

Much less common causes of neck pain include tumors, infections, or congenital abnormalities of the vertebrae.

When should you seek medical care?

If severe neck pain occurs following an injury (motor vehicle accident, diving accident, fall), a trained professional, such as a paramedic, should immobilize the patient to avoid the risk of further injury and possible paralysis. Medical care should be sought immediately. Immediate medical care should also be sought when an injury causes pain in the neck that radiates down the arms and legs. Radiating pain or numbness in your arms or legs causing weakness in the arms or legs without significant neck pain should also be evaluated.

If there has not been an injury, you should seek medical care when neck pain is:

continuous and persistent

severe

accompanied by pain that radiates down the arms or legs

accompanied by headaches, numbness, tingling, or weakness

Who can treat neck pain?

Many patients seek orthopaedic care for neck pain, because orthopaedists are specifically trained in the workings of the musculoskeletal system, including the diagnosis, treatment, and prevention of problems involving the muscles, bones, joints, ligaments and tendons. While some orthopaedists confine their practices to specific areas of the musculoskeletal system, most treat a wide variety of diseases, injuries and other conditions, including neck pain.

Diagnosing neck pain

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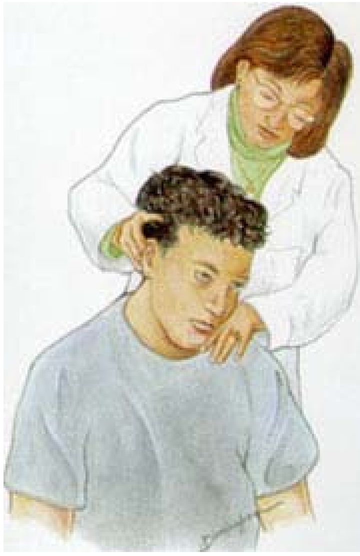

Determining the source of the pain is essential to recommend the right method of treatment and rehabilitation. Therefore a comprehensive examination is required to determine the cause of neck pain.

Your orthopaedist will take a complete history of the difficulties you are having with your neck. He or she may ask you about other illnesses, any injury that occurred to your neck and any complaints you have associated with neck pain. Previous treatment for your neck condition will also be noted.

Next, your orthopaedist will perform a physical examination. This examination may include evaluation of neck motion, neck tenderness, and the function of the nerves and muscles in your arms and legs.
X-ray studies often will be done to allow your orthopaedist to look closely at the bones in your neck. These simple diagnostic techniques often help orthopaedists to determine the cause of neck pain and to prescribe effective treatment.

Patients who require further evaluation may undergo one or more of the following examinations:
MRI (magnetic resonance imaging). This non X-ray study allows an evaluation of the spinal cord and nerve roots.
CT (computed tomography). This specialized X-ray study allows careful evaluation of the bone and spinal canal.
Myelogram (injection of a dye or contrast material into the spinal canal). This specific X-ray study also allows careful evaluation of the spinal canal and nerve roots.
EMG (electromyogram). This test evaluates nerve and muscle function.
Your orthopaedist may supplement your evaluation with blood tests, and, if necessary, will consult with other medical specialists.
Treatment
How neck pain is treated depends on what the diagnosis reveals. However, most patients are treated successfully with rest, medication, immobilization, physical therapy, exercise, activity modifications or a combination of these methods.

For example, if pain is caused by inflammation as a result of stretching muscles and ligaments beyond their limits, your orthopaedist may prescribe rest and a neck collar for a specified period of time, as well as medication to reduce inflammation. If medication is prescribed to reduce pain, it should be used only as directed and should not be taken for extended periods of time. In addition, remember that if your orthopaedist prescribes rest, it is vital that you follow instructions carefully.

When neck pain persists or is chronic, your orthopaedist may recommend a rehabilitation program that includes an exercise program and various types of physical therapy to help you relieve your pain and prevent it from coming back.

Very few patients require surgery to relieve neck pain. For the vast majority of patients, a combination of rest, medication and physical therapy will relieve neck pain. Surgery may be necessary to reduce pressure on the spinal cord or a nerve root when pain is caused by a herniated disk or bony narrowing of the spinal canal. Surgery may also be required following an injury, to stabilize the neck and minimize the possibility of paralysis such as when a fracture results in instability of the neck.

Your orthopaedist is a medical doctor with extensive training in the diagnosis and nonsurgical and surgical treatment of the musculoskeletal system, including bones, joints, ligaments, tendons, muscles and nerves.

Reviewed 2000

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Input was provided by:

- Occupational Therapy Clinic
- Physical Therapy Clinic
- Orthopedic Clinic
- Family Practice Clinic
- Okubo Clinic
- 555 Engineers
- 1st Brigade
- 3rd Brigade
- 62nd Medical Brigade

POC:

- Outcome Management

References:

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